

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Targeted Changes to the Commission's	)	
Rules Regarding Human Exposure to	)	ET Docket No. 19-226
Radiofrequency Electromagnetic Fields	)	
	)	

To: Office of the Secretary  
Federal Communications Commission

Comments Submitted By:

**Consumers for Safe Cell Phones**

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Consumers for Safe Cell Phones is a 501C3 non-profit organization. I, Cynthia Franklin, attest that my statements are true to the best of my knowledge.

The FCC is mandated to protect citizens from the known hazards of microwave radiation exposure while ensuring a reliable communications network of services designed to ensure the safety and welfare of the American people. Nowhere is it stated that the FCC's function is to facilitate the telecom industry's profit-making potential. And, nowhere is it stated that FCC's function is to ensure citizens have unlimited access to wireless internet connection in their homes, public spaces, schools and public transportation to allow them to send photos, access email, connect on Facebook and stream movies, cat videos and football games while on the move at all hours of the day and night.

There is no way to justify the risk to public health from continuous, ever-increasing exposure to higher and more powerful frequencies of pulsed, microwave radiation in close proximity to people's homes, schools and public spaces. The balance has shifted away from protection of the health of the American people and is now grossly in favor of protecting the economic interests of the telecom industry.

We, the people, are being exposed to frequencies and intensities of microwave radiation that have never been tested on humans. It is frightening and unacceptable for this situation to continue.

121. In response to the NPRM's comment, *"....on the topic of body-worn spacing during testing of cell phones, we continue to strive to ensure that such spacing represents realistic values for....common usage."*

CSCP supports the proposal in the 2013 Notice of Inquiry to remove the 5 cm minimum separation distance for compliance testing in order to simulate SAR in typical RF exposure situations. **Devices being marketed for use on the body (cell phones, laptops, tablets, etc.) must be tested with zero separation to simulate "common usage."** To assume that cell phone consumers all use belt clips and holsters to maintain some fabricated "separation distance for on the body use" is out of date by about 15 years. Additionally, FCC's newest pretense that some mythical "large safety factor" protects consumers from unsafe levels of heating from microwave radiation no matter how close in proximity to the soft tissues of the torso is just magical thinking with no grounding in scientific facts.

FCC staff have said that it doesn't really matter about maintaining the separation distance used for compliance verification as there is a large safety factor built into the standard. It is inappropriate for FCC staff to make these sorts of assurances to consumers based upon an opinion that some number of times below a relatively high level of tissue heating (i.e.; a SAR of 4 W/kg) is adequate to protect citizens from the known hazards of microwave radiation exposure.....especially given the growing body of peer-reviewed studies showing health effects at hundreds and even thousands of times below the current FCC guidelines.

The FCC consumer website MUST provide factual and complete information to the public, and until the separation distance “warning” is included on the website in a prominent location, the website is incomplete and misleading as it allows consumers to believe that it is safe and compliant to carry and use a cell phone directly against the body.

Cell phone manufacturers (with tacit approval by top level CTIA officials) engage in the industry-wide practice of deceptively hiding the separation distance “warning” in the legal fine print of user guides in obscure locations that are not likely to be seen by users. When local jurisdictions have attempted to inform citizens of this FCC-required cell phone use disclosure, the industry has launched aggressive legal campaigns to intimidate lawmakers to either reject or repeal consumer “right to know” laws.

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Until the separation distance allowance is removed from the testing procedure and cell phones are tested for compliance in the manner in which they are actually being used.....the FCC MUST require that manufacturers attach prominent, easy to understand stickers on all cell phones that are currently being designed and marketed to be used in the non-compliant manner of being tucked into breast or pants pockets, waistbands or bras. As an alternative to stickers, a short, easy to understand “flash” message (to never wear or use in a pocket or directly against the breast or torso) could be required to display upon power up on every phone.

In response to the question of whether current limits are appropriate as they relate to device use by children, CSCP has the following comment:

The current compliance testing procedure uses the SAM model which, being based upon a 220 pound, 6’2” man, only takes into account the SAR levels for the largest 3% of the U.S. population. Children, teens and smaller adults are NOT taken into account. No, FCC’s current limits are NOT appropriate as they relate to use by children; device manufacturers are blatantly marketing to parents of toddlers and babies encouraging them to buy devices and apps designed to be held in close proximity to (and directly against) their children’s developing brains and bodies.

It is not acceptable to blatantly refuse to take the vulnerabilities of children into account by merely citing an opinion comment on the FDA website.

122. In response to the NPRM’s comment, “[ICNIRP and IEEE] guidelines are aimed at prevention of electrostimulation due to RF electric fields induced internally within the human body....the primary human reaction to electromagnetic field energy at those frequencies.....We seek comment on the significance of the difference among the....guidelines.”

ICNIRP and IEEE are organizations comprised of engineers and physicists with the outdated scientific assumption that the only impact of non-ionizing radiation exposure on the human body is heating and electrostimulation.

As early as 1999, the FCC accepted that biological effects were shown to occur at non-thermal levels as referenced in this early version of FCC OET Bulletin 56:

*OET BULLETIN 56*

*Fourth*

*Edition*

*August 1999*

*Questions and Answers about Biological Effects and Potential Hazards  
of Radiofrequency Electromagnetic Fields*

*WHAT BIOLOGICAL EFFECTS CAN BE CAUSED BY RF ENERGY?*

*“More recently, other scientific laboratories in North America, Europe and elsewhere have reported certain biological effects after exposure of animals ("in vivo") and animal tissue ("in vitro") to relatively low levels of RF radiation. These reported effects have included certain changes in the immune system, neurological effects, behavioral effects, evidence for a link between microwave exposure and the action of certain drugs and compounds, a "calcium efflux" effect in brain tissue (exposed under very specific conditions), and effects on DNA.” (pg 8)*

And, now, 21 years later, the FCC is “pretending” that non-thermal effects do not exist.

There was convincing evidence in 1999 when past FCC staff admitted the possibility

– and the evidence is more conclusive today, in spite of the unwillingness of the IEEE and ICNIRP to admit the likelihood that this is in fact true.

**The FCC MUST re-evaluate their exposure standards and take into account the documented biological effects from human exposure to non-thermal levels of microwave radiation hundreds and thousands of times below the guidelines proposed by physicists and engineers.**

123. The FCC must take into account the INDEPENDENT views of scientists who specialize in the biological effects documented in thousands of published studies spanning over 50 years. Two excellent organizations are given below:

- I. Oceania Radiofrequency Scientific Advisory Association Inc. (ORSAA) – “ORSAA is a not-for-profit organisation of scientists and professionals of various academic disciplines who are interested in the scientific research that investigates the effects of artificial electromagnetic radiation (EMR) on humans, animals and the environment. As the name indicates, ORSAA has a special focus on radiofrequency electromagnetic radiation (RF-EMR) that includes high frequency microwaves widely used for wireless communication and surveillance technologies. However, ORSAA’s interest in biological effects research extends to extremely low frequency (ELF) fields such as those utilized for domestic electrification (power frequencies).

ORSAA’s ethos is to provide an independent perspective on the relevant science and facilitate evidence-based decision making by various stake-holders of modern society including clinicians, educators, safety officers and policy makers on issues regarding exposure to EMR.” <https://www.orsaa.org/>

- II. The BioInitiative Report – <https://bioinitiative.org/> (Full report included in docket by reference)

“The great strength of the BioInitiative Report ([www.bioinitiative.org](http://www.bioinitiative.org)) is that it has been done independent of governments, existing bodies and industry professional societies that have clung to old standards. Precisely because of this, the BioInitiative Report presents a solid scientific and public health policy assessment that is evidence-based.”

Below is a chart appearing in the BioInitiative Report compiled in August, 2019 from a review of published studies comparing RF exposure “Effect” vs “No Effect” in Neurological Effect Studies. This is one of many such charts in the BioInitiative Report and I suggest the FCC undertake a serious effort to review the research presented in this extensive report:

- **Percent Comparison Showing Effect vs No Effect in Neurological Effect Studies**
  - **BioInitiative Report Research Summaries Update,**
    - **August 2019**
    - **Chapter 8, Neurological Effects**

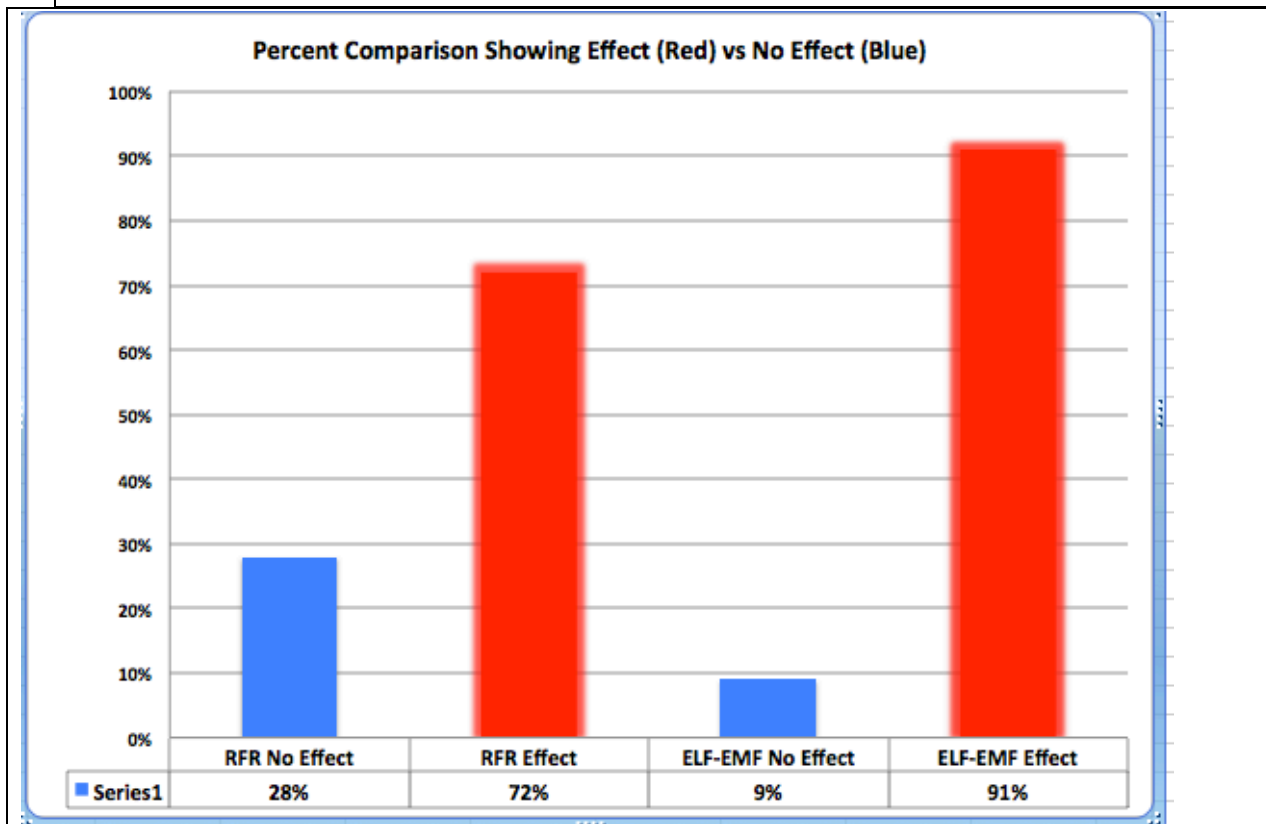
- **Neurological Effects of Radiofrequency Radiation**

- **Of 305 total studies:** (E= 222 (72%); NE= 83 (28%))

- **Neurological Effects of Static Fields and ELF-EMF**

- **Of 229 total studies:** (E= 208 (91%); NE= 21 (9%))

(E = reported effect; NE = reported no significant effect)



124. In response to the request for guidance on the proposed limits, the FCC is acting in an unethical manner by “taking cover” behind the industry-influenced guidelines and views of ICNIRP and IEEE that the only effects in these frequency ranges are thermal-based. This continued pretense and refusal to even look at the evidence of biological effects at non-thermal levels shows the obvious collusion with the very industry which the FCC is mandated to regulate.

**It is time for the FCC to take seriously the majority of peer-reviewed, independent published science showing that the current standard is likely hundreds or thousands of times more lenient than what is necessary to adequately protect citizens from microwave radiation,** especially given that we are all being exposed at greater intensity and for longer duration throughout the day and night – and given that children today will face a lifetime of exposure and the long-term effects are essentially unknown.

126/127. A recently published study (abstract below) is included in its entirety into this docket by reference:

### **“Adverse health effects of 5G mobile networking technology under real-life conditions”**

Ronald N.Kostoff<sup>a</sup>PaulHeroux<sup>a</sup>MichaelAschner<sup>c</sup>AristidesTsatsakis

#### **Toxicology Letters**

Volume 323, 1 May 2020

#### **Abstract**

“This article identifies adverse effects of non-ionizing non-visible radiation (hereafter called wireless radiation) reported in the premier biomedical literature. ***It emphasizes that most of the laboratory experiments conducted to date are not designed to identify the more severe adverse effects reflective of the real-life operating environment in which wireless radiation systems operate. Many experiments do not include pulsing and modulation of the carrier signal.*** The vast majority do not account for synergistic adverse effects of other toxic stimuli (such as chemical and biological) acting in concert with the wireless radiation. ***This article also presents evidence that the nascent 5G mobile networking technology will affect not only the skin and eyes, as commonly believed, but will have adverse systemic effects as well.***”

Regarding the section in NPRM paragraphs 126/127 on “adaptive array” antennas. The FCC can’t responsibly determine a “safe” public exposure for a technology which is just being developed and has not been subjected to any pre-market testing.

130. Studies on RF do not typically take into account the underlying pulsing and modulation of the carrier signal as documented in the above-mentioned study, **“Adverse health effects of 5G mobile networking technology under real-life conditions.”** (Kostoff, Heroux, 2020)

The full impact on the body from the high intensity microwave “blasts” (i.e.; exposure “peaks”) must be accurately measured to simulate “real-life conditions” rather than allowing them to be averaged over time and area in an obvious attempt to “smooth out”, distort and minimize the actual biological effect.

137. The concept of “charging (or powering) of devices while in motion” relies upon new technology that is not yet implemented. CSCP urges the FCC to disallow such nascent technology to be “unleashed” on the American people until it has undergone pre-market safety testing in ALL worst-case possible scenarios.

What scientific evidence is being used to prove the safety of directed high beams of intense microwave energy tracking our devices around as we carry them against our bodies, blasting through any child or living being that happens to be in the “line of fire”? You have the assurance by engineers that the charging station will be able to detect an “obstructing” living being – but where are the real-life studies assuring us that this theoretical concept will function in the real world?

We are already being exposed 24/7 to unnatural pulsed, man-made frequencies and rapidly escalating intensities that the human body is not equipped to tolerate – exposure the International Agency for Research on Cancer (IARC) has classified as possibly carcinogenic (and will be reviewing for a higher risk classification in the near future) - at levels possibly thousands of times higher than that which has been shown by the majority of independent science to cause biological harm. And, this exposure is being forced upon us without our awareness or permission..... with every attempt the public makes to protect ourselves in our communities being aggressively curtailed by actions from the FCC, the very agency that is mandated to protect us.

141. Yes, the term “local” should be defined as the distance between the transmitting and receiving units. There must be a maximum field permissible in terms of safety for a living being in close proximity. Local operation should be just that – with the receiving unit within a few inches of the transmitting unit. This is in operation now with charging “pads” or docks that eliminate wires, plugs, cables, etc.; there really is no reason to expand this bizarre use to include tracking around devices that are within inches of a human body throughout the day and night.

143. “At-a-distance” charging is especially absurd with no reasonable application that would justify this unsafe situation of a concentrated “variable-shaped” beam of concentrated RF tracking around consumers’ devices with unknown biological impacts. Just think about the



situation in which 50 young adults are in close proximity at an event, all with one or more wireless devices ON THEIR BODIES, with hundreds of beams criss-crossing the room, blasting concentrated beams of high-intensity, microwave radiation throughout those unfortunate bodies that in the “line of fire” from many different charging beams, and which were not properly detected by the transmitting units. CSCP strongly opposes this proposal which only has benefit for the telecom industry at great public health risk to consumers.

144. **YES!** If you feel obligated to ensure compliance of these ridiculous exposure scenarios, then to quote FCC staff's own words, “these devices should comply with our rules under all operating conditions, including movements of people around and in the field.” And **YES!** – the guidelines **MUST** take into account the likelihood of interference from wireless power transfer devices on worn or implanted medical devices.

CSCP strongly suggests that any environment in which this exposure is present **MUST** have prominent warning signs, similar to those required when an unsuspecting citizen ventures onto a rooftop or other area in which exposures may exceed the guidelines.....especially given the fact that FCC exposure guidelines are hundreds and thousands of times higher than levels known to cause biological harm.

147. **YES!** See above comment. CSCP suggests that FCC rules require a transmitting unit to detect any, and all obstructions, and assuming it is a human body (or other living being), to shut down the power transfer process and generate a clearly audible signal with an easy to understand error message displayed on the transmitting and receiving units.

Examples of these likely scenarios: a young man with his phone in his front pants pocket, moving around such that the concentrated microwave beam is randomly sending blasts into his groin area. FCC staff is very much aware of the hundreds of submissions from earlier dockets of all the published studies documenting the harmful effects of RF on sperm quality. Good luck to him if he is trying to impregnate a loved one!

Other likely scenarios to take into consideration: a phone being wirelessly charged in the shirt pocket of a person with a cardiac pacemaker, a woman with her phone conveniently tucked into her sports bra moving about her kitchen....assume she also has a baby on her hip as she moves around the room doing various tasks. How can FCC rules assure the baby is not the one being randomly “blasted” by the concentrated beam of microwave radiation?

If this absurd application (of people's devices being charged while the human body is in motion) is allowed to be considered a compliant situation for which the FCC will issue exposure guidelines, CSCP suggests the following: when an obstruction is detected, or when it is detected that the device is moving around such that the transmitter can't maintain a continuous tracking signal, the transfer immediately stops and the receiving device emits a loud sound and displays an error message that the charging or power transfer has been terminated due to an unsafe situation.

